

Financing Energy Efficiency Project Bundles for Municipalities

Xianli Zhu

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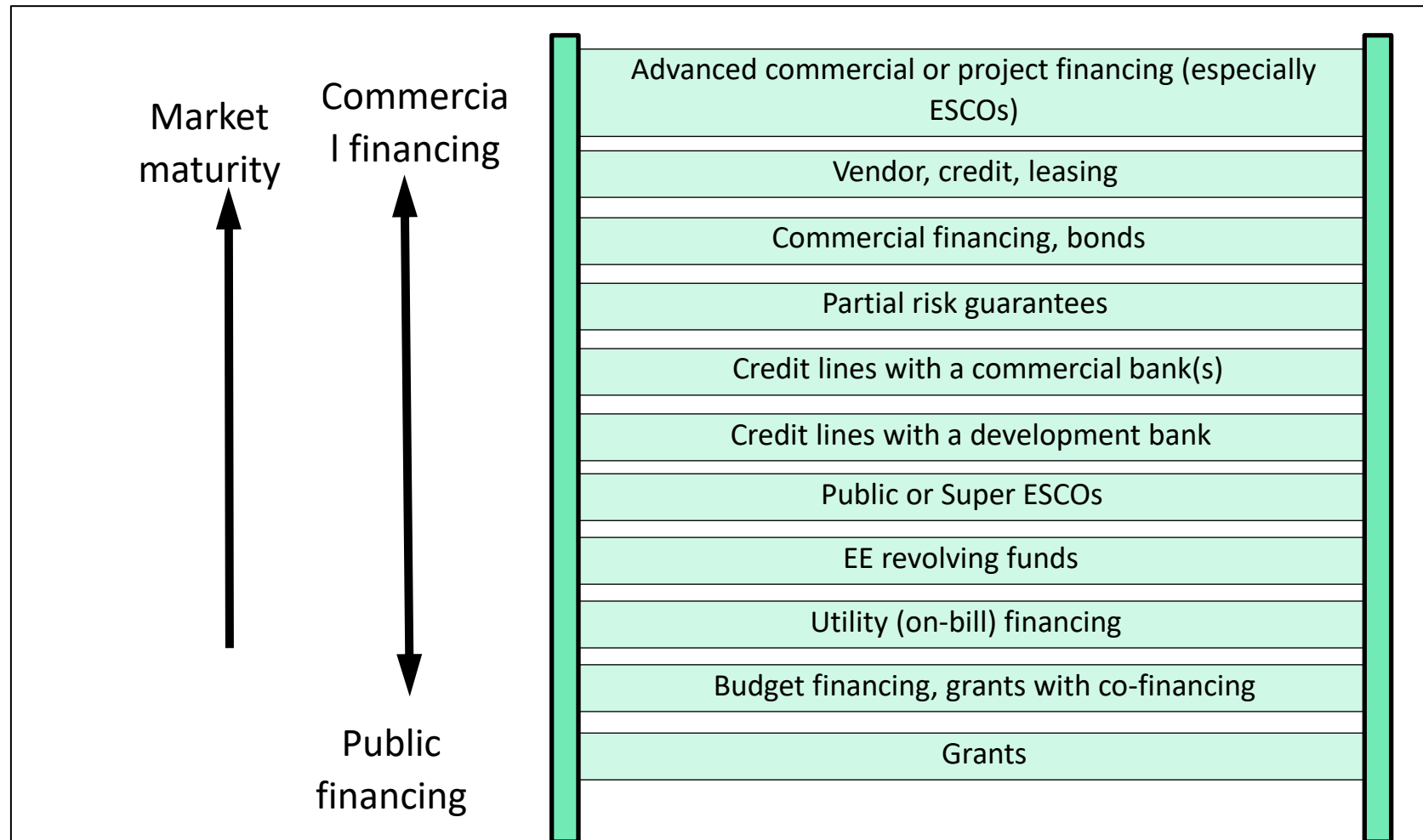
Outline

- Municipal EE Project – preconditions and options
- Municipal budget funding and grants
- Off balance-sheet funding solutions
- Commercial credit and development credit
- Mechanisms for financing and implementation of EE Projects
- Designing the right financing solutions for each project

Preconditions for successful financing

- A municipality's payments for energy use need to be based on current consumption.
- Energy prices should reflect the real costs of energy.
- Stability of energy prices. Energy price fluctuations directly affect revenue flow and project risks. Clear long-term government policies on future energy prices can reduce the risks of EE Project Bundles and motivate investment in them.
- The municipal budgeting process must allow a municipality to retain the cost savings resulting from EE projects. If the municipal budget is reduced when energy costs are lowered, the municipality is unable to repay the financing costs of the EE projects.

Financing EE - A ladder of options



Main factors influencing the availability of financing models

Main factors influencing the availability of financing models

- A municipality's financial strength and creditworthiness
- Predictability of revenues and budget transfers
- Local legal and regulatory framework
- Commercial financing environment
- Nature of the EE Project Bundles
- Local implementation capacity
- Availability of different delivery mechanisms

Municipal budget funding and grants

Municipalities have enough funding for implementing the EE Project Bundles through:

- ✓ their own savings or budget funding, or
- ✓ grants from national or regional funding, or
- ✓ international development agencies.

Cities can choose between

- ✓ hiring a general energy service provider company – which carries out the product procurement, installation and construction; or
- ✓ hiring several companies for different parts of the activity, such as detailed energy auditing and designing of the project, procurement, and installation.

Off balance-sheet funding solutions

- Advantage: off balance sheet funding options do not accrue municipal pal debt and, therefore, do not count against their borrowing capacity (e.g. vendor finance or ESCO project financing).
- There are two preconditions for an energy performance contract to work.
 - First, the statutes allow municipalities to retain their original budget for utility costs even though future utility bills will be reduced as a result of the installed energy and water conservation measures.
 - Second, the public agencies and institutions are ready to share the energy, water consumption data.

Types of off-balance sheet financing options (1)

- **ESCOs**

For municipalities, the great advantage of using ESCOs to finance their EE Project Bundles is that there is no need to raise funds for their EE projects, while upon the end of the contract with the ESCOs, municipalities can enjoy continuous energy-saving benefits from the projects, better services for the users and increases in the public building or infrastructure's market value.

- **On-bill financing**

On-bill financing (OBF), also known as on-bill repayment, refers to a type of loan that can be used to invest in improving the EE of a building. The loan is paid back over time through additional charges on the building's utility bill.

Types of off-balance sheet financing options (2)

- **Vendors' credit**

Vendors credit is the commercial credit is that offered by suppliers, which allows municipalities to pay for the products or equipment for EE Project Bundles in installments over an agreed duration.

- **Green leasing**

Also known as energy-aligned, energy-efficient or high-performance leasing – is the practice of realigning the financial incentives of sustainability or energy measures in lease documents. Realigning cost structures through a green lease allows both building owners and tenants to save money, conserve resources and ensure the efficient operation of buildings.

Commercial credit and development credit

To access commercial credit for funding, a municipality needs to consider the following preconditions.

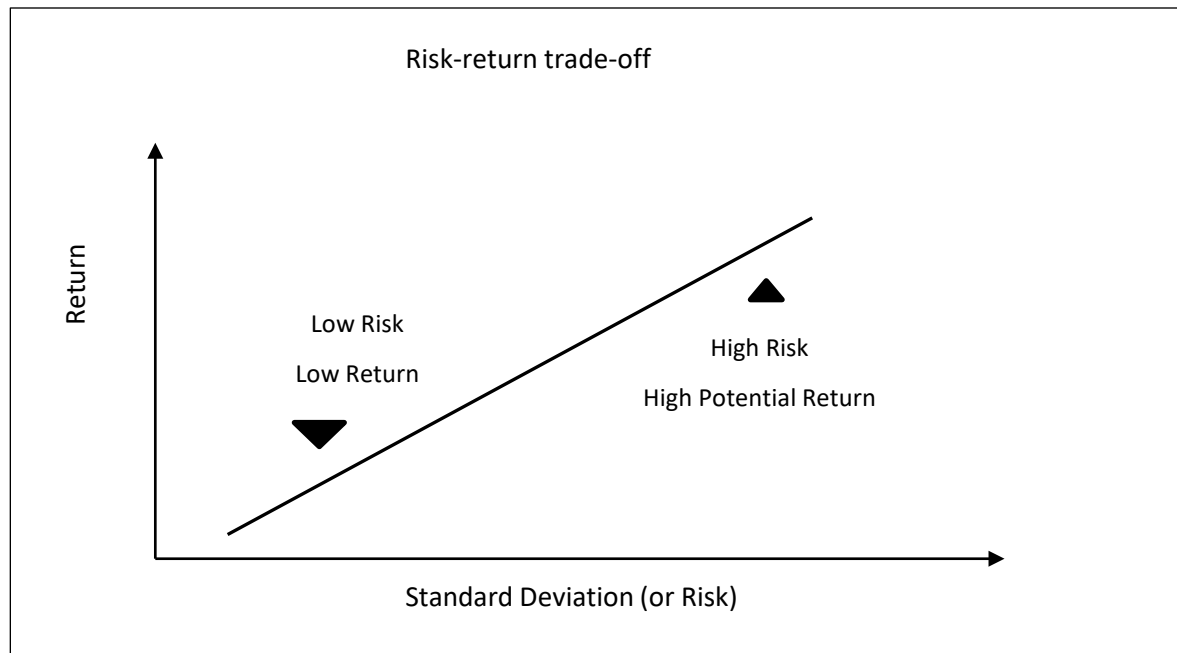
- Local commercial banks or financial institutions (lenders) are interested and willing to finance municipal EE projects and have the funds and financial products for municipal EE financing.
- A municipality needs to be considered creditworthy by commercial lenders, or they can get credit backing or a guarantee from the national or regional government.
- In many countries, national governments impose borrowing limits on municipalities. A municipality needs to have sufficient borrowing capacity under such a limit to take on additional loans.
- In addition to a good credit rating and sufficient borrowing capacity, a municipality may need to have collateral that is acceptable to commercial lenders.

Getting a project to bankability

- The definition of bankability is that the project is robust enough from a revenue and risk perspective to attract finance under the terms of an EPC contract.
- Although financing is the last, and the key, step between project development and project implementation, bankability is an issue to a large degree determined in project opportunity identification through economic assessment and the selection of business models.
- The technical and economic assessment is expected to seek Project Bundles with relatively short payback periods, an internal return rate higher than the market interest rate, and low technical, economic and political risks.
- Such Project Bundles proposals are of high bankability. They are likely to attract the attention of banks and other financial institutions and raise the necessary funding.

Risk-return trade-off

- Higher risk is associated with a greater probability of higher return, and lower risk with a greater probability of smaller return. This is called the risk-return trade-off. This means that projects with higher risks often have to offer higher returns to attract external financing



Risk management

- If some risks with high occurrence probability and high impacts on the project's economic performance are identified, the project owners need to plan effective risk management measures. Risk management can be done through:
 - ✓ Proper project scoping and design, partner and equipment selection, as well as contract arrangement
 - ✓ Offering collateral or guarantees for the loans
 - ✓ Buying insurance



Mechanisms for financing and implementation of energy efficiency Project Bundles

- Using Public-private partnership (PPP) to leverage private investment
- Institutional capacity-building – Public Super-ESCO and Revolving Fund
- Education and capacity-building



Specific funding mechanisms for continuous EE improvement

- To maintain continuous EE improvement, ensure resource availability and accumulate expertise and experience in project development and risk control, one effective solution is creating specific funding mechanisms, such as a Super ESCO, revolving fund, development credit line or risk guarantee.
- Super ESCOs are governmental entities created to serve the public sector, develop the capacity of private ESCOs and facilitate project financing
- With government backing in terms of funding, credit and market demand, public ESCOs can be dominant in the local ESCO market and become super ESCOs.
- Public ESCOs can be an effective solution for combining technical expertise and public funding to overcome the technical and financial barriers to municipality EE Project Bundles
- Recently Super ESCOs have been established in India, Saudi Arabia, Armenia, the US, Belgium and the UAE.
- The Super ESCO then has a dual role of supporting the capacity development and project development activities of existing private sector ESCOs and helping to create new ESCOs.

Revolving Fund

Another approach is setting up a revolving fund to support public sector EE improvement.

- The government provides the starting capital to the Revolving Fund (RF), which then provides investments in municipal EE projects and recovers its investment through energy saving.
- In this way, a pipeline of municipal EE projects can be developed, funded and implemented.



Education and capacity-building

- To speed up municipal EE project implementation at scale, it is important to build the capacity of market players, including qualified energy managers and auditors, professionals for data collection and project design, retrofitting, equipment replacement and repair and maintenance.
- Different types of energy audit at different stages of the project identification and decision-making:
 - Preliminary energy audit.
 - Detailed audit.
 - Investment-grade detailed audit



Designing the right financing solutions for each Project

The World Bank concluded that the main financing options for cities retrofitting municipal buildings are:

- their own budget funds,
- public finance provided by national or regional governments,
- finance provided by international organizations, such as the World Bank or (GIZ),
- dedicated EE funds,
- commercial financing from banks and private investors, including by issuing local government bonds.

Factors influencing financing mechanisms

The suitability of different financing mechanisms depends, among other factors, on:

- The project owner's creditworthiness,
- The predictability of revenues,
- Local legal and regulatory frameworks,
- Implementation capacity.



Financing of Municipal EE projects - the US practices

- In the US, municipalities, universities, schools and hospitals are known together as the 'MUSH' market.
- MUSH EE projects mainly rely on self-funding – the total energy cost saving should at least be able to cover the overall costs of implementing the project.
- Financial institutions engage directly with the end-user to provide the loans, while the ESCOs are responsible for designing the EE retrofitting projects, installing the equipment and providing the ongoing operation and maintenance services, and taking the performance risks.
- Private financial institutions engagement in the energy services business is predominantly driven by federal, state or local regulations

Illustrative Municipal EE Projects and Related Financing Options

Type of Measure	Examples	Project Characteristics Potential			Potential Financing Options for Municipalities	
		Technical Complexity	Investment Needs	Paybacks	Weak Credit, Limited Borrowing Capacity	Strong Credit, Ample Borrowing Capacity
Building Retrofit	Insulation, Efficient Chillers/ Boilers, EMS	Medium	Medium to High	Long	Budget Financing, EE Funds	Budget Financing, EE Funds, Public Support, Commercial Financing
Public Lighting	LED Lamps, Lighting Controls	Low to Medium	Medium to High	Medium		
Utilities	Loss Reduction, Efficient Pumps, System Optimization	Medium to High	Medium to High	Long		

Decision tree for municipal EE project financing

Situation		Issues/ challenges	Action	Financing mechanism
Does the municipality have sufficient resources to fund the project itself?	No	Allocation of funds from the budget	Prepare grant application	General budget financing
Are grants available from donors?	No	Grants may not finance entire project	Prepare grant application	Partial budget financing and partial grant
Are funds available from national government?	No	Funds may only provide partial financing	Apply for national funds	Budget capture
Is there an EE fund?	No	Eligibility criteria for the EE fund	Apply to the EE fund	EE fund
Are commercial banks willing to offer dedicated credit lines and/or risk-sharing programmes?	No	Creditworthiness, collaterals, and borrowing capacity of the municipality	Review eligibility for these mechanisms	Dedicated credit lines or risk guarantee programmes
Is the municipality creditworthy and has borrowing capacity?	No	Criteria used by commercial banks to assess creditworthiness	Access credit lines or risk-sharing programmes	Dedicated credit lines or risk guarantee programmes
No options available for financing		Developing EPC	Negotiate EPC with ESCOs	Commercial financing with ESCOs
Are there active ESCOs in the local market?	No	Eligibility criteria and terms of financing programmes	Negotiate leasing or vendor financing agreement	Leasing or vendor finance
Are leasing or vendor financing programmes available?	No	The market for such bonds, transaction costs	Develop municipal bond programme	Municipal bonds
Does the municipality have the capacity to issue municipal bonds?	No			



Thank you for your attention

c2e2.unepdtu.org/

xzhu@dtu.dk